



## ABSTRACT

An example [[A]] spread spectrum communication system is provided in which a ~~to~~ ~~control the signal amplitude variation so as to alleviate the requirement of the linearity on~~ ~~an~~ ~~the~~ ~~amplifier etc., thus allowing for use of a compact, low cost and energy saving transmitter.~~ The transmission signal is separated into an ~~the~~ I-phase component and a ~~the~~ Q-phase component. In a complex spreading portion (301), spreading is performed by using multipliers (304 ~~and~~ 305) and adders (302 ~~and~~ 303) together with a sequence pattern of 1 and -1 appearing alternately. The outputs from the complex spreading portion (301) are modulated in multipliers (306 ~~and~~ 307) using pseudo-random sequences  $PN^{(k)}(x)$  allotted for individual users. The baseband signal undergoes ~~which underwent~~ waveform shaping by roll-off filters and (308 ~~and~~ 309) is modulated through a carrier modulator (316), then sent to a power amplifier (315), where it is amplified and transmitted via an antenna (317).